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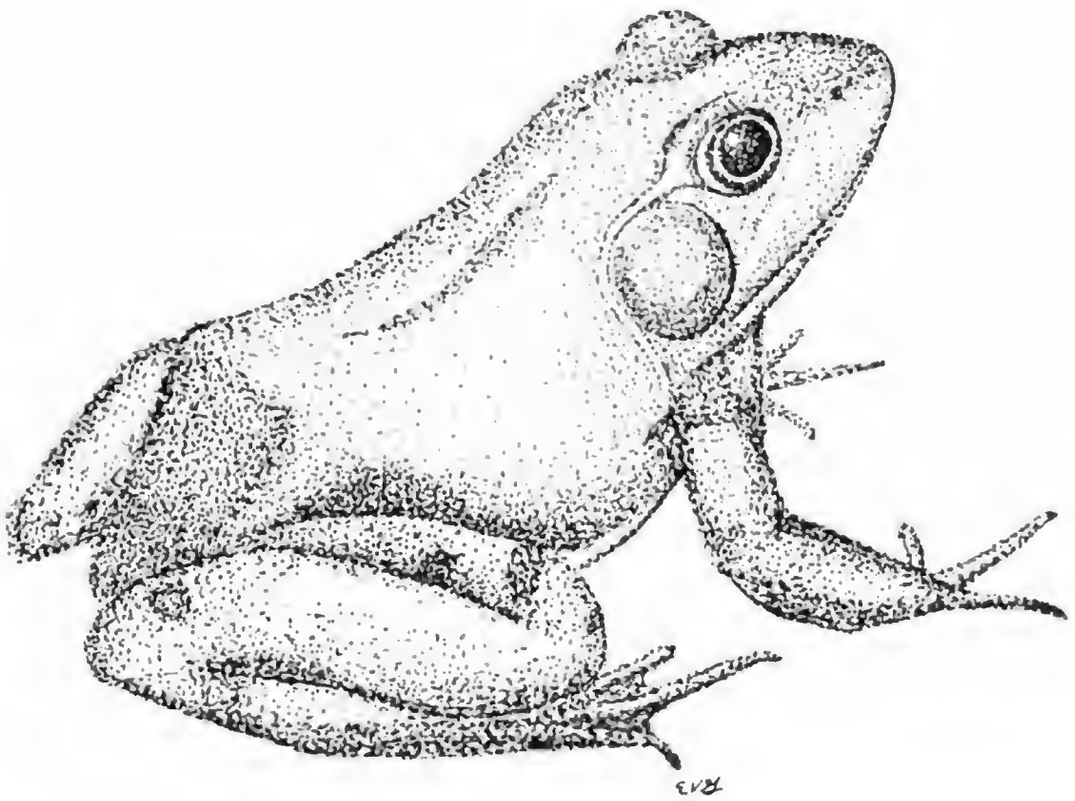

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BULLETIN INFORMATION

The Bulletin of the Virginia Herpetological Society is issued twice a year by the Virginia Herpetological Society. Membership is open to all individuals interested in the study of amphibians and reptiles, and includes a subscription to Catesbeiana and admission to all meetings. Dues are $5.00 per year and include Catesbeiana numbers 1 and 2 for that year. Dues are payable to: Laura Crews, Secretary-Treasurer, Route 1, Box 411, Hayes, VA 23072. See page 34 for additional membership information. Herpetological societies desiring exchange of publications should send copies of their society publications to Charles Neal, Dept. of Biology, Radford University, Radford, VA 24142.

EDITORIAL POLICY

The principle function of Catesbeiana is to publish observations and original research about Virginia Herpetology. Rarely will articles be reprinted in Catesbeiana after they have been published elsewhere. Anyone uncertain about the appropriateness of a manuscript should contact either Charles Neal or Eugene Gourley, Coeditors, Department of Biology, Radford University, Radford, VA 24142. All manuscripts for publication should be submitted to Charles Neal or Eugene Gourley.

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*(Continued on inside back cover.)

C A T E S B E I A N A

Bulletin of the Virginia Herpetological Society

VOLUME 7 FALL 1987 NO. 2

MEETING NOTICE

The Fall Meeting of the VaHS will be held October 17, 1987 at the University of Richmond, Richmond, Virginia. Dr. Joseph C. Mitchell will be hosting the meeting. See pages 22 and 23 for details.

Cover: Rana catesbeiana by Eugene Gourley.

NATURAL HISTORY OBSERVATIONS ON VENOMOUS SNAKES NEAR THE PEAKS OF OTTER, BEDFORD COUNTY, VIRGINIA

by

Robert A. S. Wright
Central Va. Biolog. Research Consortium
5204 Riverside Drive
Richmond, VA 23225

While preparing a brief treatment for Peaks of Otter personnel on local venomous snake hibernacula habitat ecology (Wright, 1985), several interesting Park Service Resource Management Project reports were acquired from research files at the Peaks of Otter Visitor Center (milepost 86) for further analysis, study, and development. These reports were compiled by Ranger Rick Baker and other parkway personnel during the spring of 1981 through the fall of 1983.

Field notes and other records were maintained by Baker during the three year period in an attempt to isolate areas of increased venomous snake activity along the parkway. In many instances, a high concentration of venomous snake sightings along certain topographically and ecologically favorable habitats adjacent to the parkway indicated a nearby den site.

What began as a casual perusal of Baker's data soon ballooned into a full-scale ecological investigation. Not only have the findings of his work been helpful in personal den site selection studies, but indeed more importantly, some of the information in the reports quantitatively substantiates crotalid behaviors and body length measurements treated in Degraaf and Rudis (1983), Finneran (1948, 1953), Fitch (1960), Gloyd (1934), Hoffman (1986), Kimball (1978), Klauber (1972), Martin (1976, 1983), Wood (1954), and Conant (1975).

Presented here is pertinent ecological information that details the hourly activity (Table 1), monthly activity (Table 2), and total body length statistics (Tables 3 and 4) for the northern copperhead (Agkistrodon contortrix mokeson Daudin) and the timber rattlesnake (Crotalus horridus horridus Linnaeus).

METHODS

During each year's study period (April through November), all venomous snake sighting reports were collected, verified and documented by Baker and other knowledgeable parkway personnel. A "snake sighting" was constituted by a capture

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and examination of a live animal found as a result of roadside collection or by the inspection of a freshly killed specimen. To prevent data inaccuracy, no intensive searches were made for any snakes. Any sighting not conforming to this criterion was discounted.

Upon each verified venomous snake sighting, data were collected that detailed the characters and general condition of each snake. Other information, such as time of sighting and prevailing weather conditions was also recorded. The exact location of each sighting was carefully plotted on U.S. Geological Survey 7.5 minute topographic map (Peaks of Otter Quadrangle).

A total of 46 sightings was registered for 1981. Of these, 26 were copperheads (including 14 D.O.R.'s) and 20 (11 D.O.R.'s) were rattlesnakes. For 1982-83, 98 specimens were examined. There were 62 copperheads (30 D.O.R.'s) and 23 rattlers (13 D.O.R.'s). All live snakes were released after examination, and other specimens were, unfortunately, discarded.

FINDINGS

Hourly Activity (Table 1)

Table 1 shows a period of distinct nocturnal activity that begins soon after the sun sinks below the ridgetops (around 6:00 p.m.). The activity peaks at 10:00 p.m., about the time when most ambient heat has radiated from the road surface (pers. observ.). Snake activity comes to a relative standstill around 2:00 a.m. This behavior is unexplained. Many nights were futilely spent searching for snakes after 1:45 a.m.

An "optimum snake activity range" has been established. Between 8:00 p.m. and 1:00 a.m., 43 sightings occurred, accounting for 73% of the total. Between 10:00 p.m. and midnight, 32 sightings occurred, representing 54% of the total. Nothing is known about venomous snake activity at the Peaks of Otter between the hours of 4:00 a.m. and 8:00 a.m.

This "optimum snake activity range" was extensively field tested this summer with great success. More snakes were encountered between 10:00 p.m. and midnight than at any other period. Copperheads, particularly juveniles, were frequently sighted prowling road edges, adjacent drainage ditches or drippy rock outcrops where there was lush vegetation. During this past summer only one rattlesnake was seen at night (around 12:15 a.m. in August). Rattlesnakes were generally seen crossing the road during the afternoon hours, often on hot, dry days. They appear to have an affinity to second-growth areas featuring rather dry, sterile soils in a chestnut oak-table mountain pine-heath vegetation association.

Table 1

SIMPLE FREQUENCY DISTRIBUTION OF HOURLY VENOMOUS SNAKE SIGHTINGS IN THE PEAKS OF OTTER DISTRICT, BLUE RIDGE PARKWAY, BEDFORD COUNTY, VA 1982-1983

Hour of Sighting	Number of Sightings
9:00 a.m.	1
10:00 a.m.	2
11:00 a.m.	3
12:00 noon	0
1:00 p.m.	1
2:00 p.m.	2
3:00 p.m.	1
4:00 p.m.	3
5:00 p.m.	0
6:00 p.m.	1
7:00 p.m.	2
8:00 p.m.	3
9:00 p.m.	5
10:00 p.m.	13
11:00 p.m.	12
12:00 midnight	7
1:00 a.m.	3
2:00 a.m.	0
3:00 a.m.	0
4:00 a.m.	0
	Total Sightings = 59

This parallels the findings of Martin (1976), who reported a very similar habitat preference phenomenon in Shenandoah National Park. Conant (1975:234) also remarked on the timber rattler's penchant for second-growth areas.

The summertime nocturnal feeding habits of both species accounts for almost all of the nighttime activity; this is normal and is well documented in the literature (Wood, 1954; Fitch, 1960; Klauber, 1972; Martin, 1976; Kimball, 1978; Degraaf and Rudis, 1983).

Interestingly, during the busier hours of daily road traffic on the parkway (between 9:00 a.m. and 5:00 p.m.) only 15 sightings were reported for 1982-1983. Many of these sightings resulted from increased activity of the maintenance division, who flushed many snakes from hiding by their early morning mowing and clean-up operations. Rattlesnakes were

often seen or captured while basking on the parkway road surface. This habit may have been the underlying cause of several road-related fatalities.

Monthly Activity (Table 2)

Table 2 suggests that April is still too cool for any significant activity along the parkway's road surface, although venomous snakes in Shenandoah National Park, located just 100 miles north of the peaks, are known to be active in the third week of April (Wood, 1954:156, 162). Marty Martin (1983) reports hibernation ending in April and early May in Shenandoah National Park. This period is also appropriate for the Peaks of Otter area (Costello Craig, pers. comm.).

Rattlers and copperheads were first seen in May presumably after mating activity had subsided and the air temperature was warm enough to lure the animals away from their dens. Eleven sightings (7%) occurred at this time. June produced 19 sightings (13%), while July, the most active month for snake activity, yielded 63 (42%) sightings. In August, 38 sightings (25%) were recorded. By September only 15 sightings (10%) were reported. October yielded only 4 sightings (3%). There were no venomous snake sightings in November.

The activity trends revealed here are typical for the summer months. The late summer decrease in sightings may be attributed to estivation by the animals who are forced to seek shelter from temperatures as high as 33° C (Johnson and Ware, 1982). The snakes mysteriously disappear from known haunts during late summer, and can often be found under large rock piles adjacent overlooks and vista clear-cuts. Supposedly, the females of both species congregate in this manner close to the time of gestation cycle completion (Finneran, 1948:124 and 1953:61; Wood, 1954:156; Gloyd, 1934:592; Fitch, 1960:167; Klauber, 1972:695). Martin (1983) noted that gestating female timber rattlers and those in a pre-molt condition seek favorably exposed rock in Shenandoah National Park.

Copperhead Body Length Statistics (Table 3)

Table 3 presents a total body length measurement data for 90 northern copperheads examined during 1981-1983. All reported lengths are rounded off to the nearest inch, with half-inch measurements rounded to the lowest whole inch. Copperheads measuring near 24 inches were most commonly examined. Juveniles measuring around 18 inches were also frequently encountered. Of the snakes examined 58% measured between 20-27 inches. Hoffman (1986) reports capturing (from Alleghany County in 1944) several copperheads measuring between 24 and

Table 2

SIMPLE FREQUENCY DISTRIBUTION OF MONTHLY VENOMOUS SNAKE SIGHTINGS IN THE PEAKS OF OTTER DISTRICT, BLUE RIDGE PARKWAY, BEDFORD COUNTY, VA 1982-1983

Month	Number of Sightings	% of Sightings Per Month
April	0	00.0
May	10	09.7
June	14	13.7
July	39	37.8
August	27	26.2
September	10	09.7
October	3	02.9
November	0	00.0
Total Sightings = 59		

28 inches. Our study reveals that 34% of parkway copperheads attain lengths in this range.

The largest copperheads (2) examined during the three year study at the peaks each attained 35 inches. The average copperhead measured 23.18 inches. Interestingly, Fitch (1960:103) reports an average overall length of 22.42 inches for 1,678 specimens examined in Kansas.

Rattlesnake Body Length Statistics (Table 4)

Table 4 presents total body length measurements for 59 timber rattlesnakes examined during 1981-1983. All reported lengths are as above. Timber rattlers measuring around 36 inches were most often examined. Of the snakes 70% measured between 24-36 inches. The largest snakes (2) measured 46 inches each. The average size for a timber rattlesnake at the peaks is 32.4 inches.

Table 3

SIMPLE FREQUENCY DISTRIBUTION OF TOTAL BODY LENGTH MEASUREMENTS OF 90 NORTHERN COPPERHEADS EXAMINED ON THE BLUE RIDGE PARKWAY 1981-1983

Length (Inches)	Number of Snakes
35	2
34	0
33	0
32	3
31	1
30	4
29	5
28	2
27	3
26	6
25	2
24	18
23	5
22	5
21	5
20	9
19	0
18	11
17	5
16	1
15	1
14	0
13	1
12	1
Mean = 23.18 Inches	Total Snakes = 90

Table 4

SIMPLE FREQUENCY DISTRIBUTION OF TOTAL BODY LENGTH MEASUREMENTS OF 59 TIMBER RATTLESNAKES EXAMINED ON THE BLUE RIDGE PARKWAY 1981-1983

Length (Inches)	Number	Length (Inches)	Number
46	2	28	1
45	1	27	3
44	1	26	4
43	1	25	0
42	2	24	4
41	0	23	0
40	1	22	1
39	2	21	0
38	4	20	1
37	1	19	0
36	11	18	1
35	2	17	0
34	1	16	0
33	2	15	0
32	2	14	0
31	3	13	0
30	6	12	0
29	2	11	1

Mean = 32.40 Inches Total Number = 59

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SYMMETRICAL TWINNING IN *Chrysemys scripta scripta*

by

Thomas M. Padgett
Department of Biological Sciences
Old Dominion University
Norfolk, VA 23508

There have been no previously published reports of symmetrical twinning in the yellowbelly slider (*Chrysemys scripta scripta*). Presently, twinning is known from approximately 60 specimens, representing 5 families, 9 genera, and 10 species of chelonians (Plymale, et al., 1980). In this report, twinning is defined as the development of two fused embryos within a single egg. On 25 September 1985, two fused, live, *C. s. scripta* hatchlings were discovered in a small puddle of water at the intersection of Badger Ditch and Lynn Ditch, Great Dismal Swamp National Wildlife Refuge, Suffolk, Virginia. Previously, only one other case was reported of two live twin hatchlings of equal size, in *Chelydra serpentina* (Yntema, 1970). The specimens are fused at the approximate center of the abdominal scute. Fusion of the plastron is incomplete, with a 2 mm layer of the yolk sac exposed along the posterior margin of the fused area. It is unknown whether any internal organs are shared or functional. The specimens are symmetrical with carapace lengths measuring 21 mm; carapace widths, 22 mm; plastron lengths, 17 mm; plastron widths, 19 mm, respectfully. The area of fusion measures approximately 12 mm in length by 13 mm in width. The specimen was deposited in the Carnegie Museum of Natural History (CMFH 61871) via the collection of C. A. Pague. I wish to acknowledge L. W. Swanner, who collected the specimen, and the staff of the Great Dismal Swamp National Wildlife Refuge for allowing me to obtain the specimen.

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HERPFUL HINTS

by

David M. Moore, DVM
Virginia-Maryland Regional College of
Veterinary Medicine
Virginia Tech

The folks on Madison Avenue have created "Mr. Yukmouth" in an attempt to convince kids to practice good oral hygiene. Reptiles as well have their own method of advertising problems involving the oral cavity: (Mr.) mouthrot, (Mr.) canker-mouth, or (Mr.) infectious stomatitis, but don't expect any effort on their part to correct the problem. It will be up to you to prevent or seek treatment for these conditions in captive reptiles.

Stomatitis refers to an infectious process affecting oral mucous membrane tissues. Early signs of the condition can include the presence of excess saliva (drooling), anorexia (loss of appetite) or reluctance or inability to ingest food. Pinpoint reddened spots (petechial hemorrhages) may be observed on the gums in the early stages of the infection. Without treatment, ulceration of oral tissues can occur, accompanied by abundant exudate and crusting of the lesions. Deep ulceration of oral tissues may allow bacterial thrombi to be produced in underlying blood vessels, leading to a potentially fatal septicemia. Invasion of jaw bones may result in osteomyelitis, leading to loss of bone with subsequent loosening and loss of teeth. Painful gums coupled with tooth and bone loss directly contribute to the anorexia and possible starvation of the animal. Pneumonia can occur following inhalation of the bacteria laden exudate from the oral cavity. Ingestion of the exudate may result in a bacterial enteritis. Oral lesions may prevent the drainage of fluid from between the eye and the spectacle in those species that shed, causing fluid buildup and pressure on the cornea, which may result in permanent blindness.

This disease is, as its name implies, infectious. Draper et al (1981) demonstrated that the oral bacterial flora in captive snakes were predominantly gram positive, with a low incidence of gram negative organisms. Snakes with infectious stomatitis had a reversal in the population of oral microflora, with gram negative organisms as the predominant forms. The most common isolates from these infections include: Aeromonas aerogenes, A. aerophila, A. hydrophila (also the cause of redleg in frogs), Proteus spp., Pseudomonas fluorescens, P. aeruginosa, Staphylococcus spp., and Streptococcus spp. It is important to note that cloacal

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swabs taken from healthy and infectious stomatitis patients yielded an equal incidence of these gram negative organisms in their feces. Draper concluded that these organisms did not cause the disease simply from direct contact, but were opportunistic invaders which required a traumatized oral mucosal surface to facilitate their entry and establishment of an infection.

Oral injury can occur during forced feeding, especially if tongs are used to insert the prey. Consumption of rough vegetation (nettles, or thorns) or other sharp inanimate objects within the environment may damage oral tissues. Mite bites near the lips may also allow bacterial invasion. Snakes teased into striking at the glass cage walls may injure their mucosal surfaces. In addition to these mechanical traumas, Wallach suggests a dietary predisposition: either malnutrition or Vitamin C deficiency. The ultimate predisposing factor is, however, the failure of humans to adequately control the captive animals' environment through inadequate sanitization, inattention to potential sources of oral trauma, and failure to control ectoparasites. Routine, thorough cage cleaning should be practiced using products which are nontoxic to reptiles (such as a 200 ppm chlorox solution, BUT NOT LYSOL!). Reptiles identified as having infectious stomatitis should be immediately isolated and quarantined, and their cages should be sanitized as described above. As always, quarantine newly arrived animals for several days or weeks to assess the presence or absence of disease or parasites.

Since the severity of the lesions and type of infecting organism can affect the prognosis for recovery, it would be inappropriate to detail specific treatments in this narrative. I would direct you to seek professional treatment from a veterinarian with experience in reptile clinical medicine.

"Mr. Yukmouth" may prove beneficial to kids, but "Mr. Mouthrot" can spell disaster for reptiles.

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HOW I KEEP AQUATIC TURTLES WITHOUT BEING ENSLAVED BY THEM

by

Laura F. Crews
Route 1, Box 411
Hayes, VA 23072
(Gloucester County)

After struggling with textbook and field guide aquarium setups which look good on paper but don't work in reality, I developed a functional solution for housing a young adult pair of painted turtles without spending lots of money or time. Using household and "junk" materials, I provide an unobstructed swimming area, a slanting shelf, and a completely dry sandbox.

The two main problems associated with keeping aquatic turtles are filth and stench; filth control is the first step toward minimizing the accompanying stench. (It also ultimately eliminates a lot of nasty water dripped on the carpet as a result of numerous and frequent trips with a sloshing bucket to the toilet and bathtub.)

For my aquarium stand, I use a small two-drawer nightstand which I salvaged from the trash in a men's dormitory at Virginia Tech at the end of the school year. I also have another two-drawer chest the same size beside the main one, which supports the sandbox portion of my setup. It is possible to crowd the setup onto just one nightstand, although not as satisfactory because of the clamps on the swinging desk lamp, described below.

While the chests are near a window, relatively little sunlight enters. My setup functions with the assumption that there is no sunlight available. Centered on the first chest is a lidless 10-gallon aquarium. This size provides ample room for the turtles and is not too heavy for the chest. I fill the tank almost to the top; water must be added occasionally. I use a Dynaflo 150 external power filter and pump; anything less powerful is insufficient. I keep it in the back left corner of the tank, on the long side. I happen to have a spare apparatus, which makes changing much easier and faster. Still, there is no way to make cleaning the pump apparatus a pleasant or less filthy job. This is undoubtedly the most intimidating aspect of keeping aquatic turtles, for no one in his right mind could possibly enjoy plunging into such nauseous slime.

I can easily go a month (maximum, two and one-half months) without switching pumps, unless a turtle bumps the tube and

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knocks the motor's magnets ajar. This causes a tremendous grinding sound, as if the motor is burning up, not to mention a cessation of the water circulation. In this case, unplugging the cord for a moment and then restarting the pump again usually overcomes the problem. I have returned from a weekend out of town several times only to hear grinding the moment I stepped in the door. My most pessimistic guess is that the turtles knocked the magnets apart the moment I stepped out of the door. So far, my motors have only needed cleaning and oiling, so apparently there is no real damage from such an accident.

Sometimes, however, restarting the pump does not work, particularly if a tiny piece of charcoal has gotten sucked into the magnet compartment; then, the only recourse is to dismantle the apparatus and start over. A magnet may also come unglued and thus separated, which causes the spinning apparatus to slip and not function, making a frantic whirring noise. This is relatively easily repaired with aquarium cement.

I use only "old-fashioned" filter pads, coarse charcoal, and plain filter floss (very sparingly). Avoid the cartridge style filters! They may work fine with fish, but they do not with turtles; about eight hours after I installed one, I returned to find it completely clogged, with water gushing up around it, out of the Dynaflo, onto the nightstand and down into the carpet. I have neither money nor time to sit by my turtle tank and "effortlessly" pop a new cartridge in and out every six to eight hours.

I keep a floating thermometer in the tank and maintain the temperature between 70 and 80 degrees F; in winter, I use one aquarium heater in the back right corner of the tank, and another in the front left corner. Only with respect to turtles, avoid the Penn Plax Therma Flow "pc" heater: it heats correctly, but with its style of clamp, it is too easily dislodged by aggressive turtle feet, and will float to the surface and either burn up or get saturated with water. I have secured such a heater by encaging it in the wires which suspend the "shelf," mentioned below.

I use a cheap siphon pump for sucking muck from the bottom of the tank. I have lost several siphons to aquarium gravel/fish head impaction; the tube needs to be at least a centimeter in diameter. Instead of regular aquarium gravel, I use round driveway pebbles, about 3 cm in diameter. They are smooth for the turtles' plastrons and cannot lock against one another. I use only enough to just cover the bottom of the tank--never more than three deep. This lets debris settle between and below the rocks, and I can easily shove the siphon tube around and under them without danger of impaction.

When I am diligent, I can successfully siphon a total of a bucketful of mucky water, a small amount at a time, from the tank every couple of weeks. I add clean tap (or well) water at this same time, to avoid emptying the aquarium completely. This way, I do not suddenly fill it with all new tap water and can usually avoid an algae problem. Nevertheless, algae occasionally will grow, but correct doses of commercial (pet shop) algicides do work. These products require several days to show results.

When I am not diligent, the task is tenfold the trouble and time and mess. It is on these occasions that I sometimes will thoroughly scrub the aquarium.

I avoid feeding more than a dozen small minnows or feeder goldfish at a time, since the turtles kill and decapitate all visitors first, then later go back and eat what they want of what remains. This may take several days. I also feed dried shrimp, Repto-Min sticks, and small dry dog food chunks, in addition to any insects I conveniently come across and can toss in. These are fairly "neat" feeds. Raw meat seems to be a delicacy, but the resulting odor is not. Occasional cooked meat scraps, such as turkey or chicken, are cleaner but apparently not as appetizing.

As the final step in filth control, I formerly kept a large (20 cm) plecostamus, which grew up with the turtles and which they did not bother. The fish died in November 1986, and I have seen no ill effects from its absence. Since any other creature placed in the tank is "dinner," I will not attempt to introduce a new scavenging fish, especially since its benefits seem to be negligible.

Preserving an unobstructed flow of filtered water and allowing easy siphon access to the muck makes it fairly easy to keep the tank clean, but difficult to provide a basking area. I tried stacking large rocks and bricks in the center of the tank. Rocks are not indigenous to Newport News, so I first had to import them from my father's yard in Lynchburg. Then, they stacked precariously and spent as much time being knocked over as they did consuming most of the space in the middle of the tank, rendering the 10-gallon aquarium too small for the turtles to move around.

As a solution, I designed a "shelf" to provide a dry area for basking without sacrificing water space. I took the bottom tray portion of a plastic dish drain and cut it to fit the width of the tank. Plastic dish drains, which crack and split and leak so readily on the kitchen counter, are tenaciously indestructible with tin snips, pliers, hacksaws or knives. With a paper hole puncher, I made a hole in each corner of the tray, then inserted lengths of plastic-coated clothesline wire underneath. I bent the wire up to 90 degrees, then just the tips back down, thus suspending the tray from the sides of the tank at the surface of the water,

at the end opposite the pump. One wire is longer than the other so that the shelf slants. The length of the wire (i.e., the height of the shelf) required much trial and error, and although the idea seemed simple at the time, the materials proved terribly difficult to work with.

The plastic shelf is too slick for the turtles to climb, so I glued some formerly "useless" aquarium gravel (which I had discarded, but not completely) to it with rubber aquarium cement. This provides a textured surface with traction for turtle toenails. The glue peels off from time to time, and I must apply more glue and gravel.

I soon had the problem of loose turtles in the house, since all they had to do was climb on the shelf, take another step over the lip of the tank, another off the chest to the floor, and onward under the dining room drapes. Since I had already ruined my dish drain tray, I took the rack portion and turned it upside down to make a "cage" that rests on top of the tank. This, too, required tin snips, arduous cutting and adjusting in order to fit the top of the tank. At this point, I went to a thrift shop and bought all the dish drains I could. The essential supporting portions of the cages are corners and one side; cutting the rack to the dimensions of the tank invariably left at least one side of the upside-down rack open and without bars. In the end, I pieced together three racks.

To provide a completely dry "sand box" on the outside of the tank, I collected styrofoam packing cartons (e.g., from a television box) and fitted them together to form a pedestal and the sand box itself. Styrofoam glues easily with white glue, but must be pinched and chiseled into shape. It cannot simply be cut. I lined the sand box portion with calking, and glued styrofoam "railings" on the top edges to keep the interlocked "cages" from falling off. The sand box has a broad lip where it meets the edge of the aquarium, wide enough for the turtles to straddle like a log. They spend entire placid afternoons on this "log" and in the sand box, with heads stuck through the cage bars, and can scurry instantly back into the water. They spill a considerable amount of sand down in the water, so I have to replenish it now and then, to a depth of about 6-8 cm.

On top of the plastic cage, above the shelf and resting on a doughnut-shaped styrofoam base, is a black light, which is on at all times. Attached to the nightstand near the pump is a large folding desk lamp with a 60-watt bulb, set with an automatic timer on 12-hour cycles. This is normally positioned over the shelf and the sand box, but swings aside easily.

I buy plaster of Paris at an arts and crafts store, and this I mix with water and quickly form chunks roughly the size of chicken eggs. This size blends in well with the aquarium

pebbles. The plaster of Paris needs to dry for several days in order to harden completely, before I drop them into the water. The chunks take several weeks to dissolve in the aquarium. Five pounds of powdered plaster will last several years.

The animals remain healthy and are content in their environment, although I regret that they do not have shallow water in which whey can stand on their hind legs and snorkel at the surface. (However, I do not regret it so much that I intend to do anything further about it.) They "dance" in courtship, and are not overly afraid of people. The entire setup looks rather odd and rambling, but it works well for me and lets me enjoy keeping the animals when my time is at a premium.

FIELD NOTES

New county records for the queen snake *Regina septemvittata* in the central piedmont of Virginia.

The recent appearance of "The Amphibians and Reptiles of Virginia: A Distributional Survey" by F. J. Tobey has been long awaited by the herpetological community. In looking over the county records for the queen snake *Regina septemvittata*, I note that records from the central piedmont are quite rare, and therefore would like to submit the following records:

Appomattox County--April 7, 1986. Members of my herpetology class collected one small specimen under a flat rock located on a small clump of grass in the middle of Holliday Creek near the entrance to Holliday Lake State Park. The stream forms the border between Appomattox and Buckingham Counties. Specimens have been observed along this stretch of stream in the past along with *Nerodia sipedon* which is decidedly more abundant.

Buckingham County--May 2, 1986. A single specimen was observed sunning on a log overhanging the Appomattox River along a stretch of the river that forms the border between Prince Edward and Buckingham Counties. The specimen was collected approximately 1 mile west of the bridge on Highway 15.

Cumberland County--March 9, 1986. A small specimen was collected under a rock along the edge of the stream that drains Winston Lake in the Cumberland State Forest by Andy Merkle.

Prince Edward County--April 4, 1986. Several large individuals were observed under rocks at the outflow of Calhoons Lake, one of the watershed reservoirs along Little Buffalo Creek near Darlington Heights. None were collected as a voucher specimen was collected at Briery Creek Wildlife Area on March 12, 1979. The specimen was collected in an area that will not be affected by the 800 acre reservoir that has been constructed recently.

Catesbeiana 7(2):19-20

All collected specimens have been donated to the Smithsonian Institution via the collection of Joseph Mitchell, Univ. of Richmond, Richmond, Virginia.

Don Merkle
Department of Natural Sciences
Longwood College
Farmville, VA 23901

Crotalus horridus (Timber Rattlesnake): Isle of Wight County, town of Smithfield, St. Rt. 258, 0.4 km S of St. Rt. 10. October 13, 1986. D. Schwab & C. Abernathy.

A female timber (canebrake) rattlesnake was killed on the road (D.O.R.) in front of Rowland Equipment Company on St. Rt. 258 in the town of Smithfield. The specimen measured--snout to vent--910 mm, and the tail 54 mm. Neither Linzey and Clifford (1981, Snakes of Virginia, Univ. of Virginia Press, Charlottesville, 159 pp.) nor Tobey (1985, Virginia's Amphibians and Reptiles: A Distributional Survey, privately published, Purcellville, Va., 114 pp.) show a record for this species for Isle of Wight County. The specimen will be turned over to Chris Pague of Old Dominion University, Norfolk, for deposition in an appropriate collection. The specimen is numbered D-331-86 in D. Schwab's Catalog.

Don Schwab
P.O. Box 847
Suffolk, VA 23434

Opheodrys aestivus (Rough Green Snake): Mathews County, Co. Rt. 607 about 0.5 km S of Co. Rt. 608 intersection near Port Haywood. July 5, 1986. J. Nagle and J. B. Bazuin, Jr.

A road-kill found on the road in a mixed deciduous/Loblolly Pine woods by Nagle, identified and preserved by Bazuin. Specimen is an adult in good shape but was not measured as it was in rigor mortis and coiled when encountered. Neither Linzey and Clifford (1981, Snakes of Virginia, Univ. of Virginia Press, Charlottesville) nor Tobey (1985, Virginia's Amphibians and Reptiles: A Distributional Survey, privately published, Purcellville, Va.) indicate any records of this species from Mathews Co. This specimen has been donated to the Joseph C. Mitchell-Christopher A. Pague Collection, Carnegie Museum of Natural History, CMFS 54999.

John B. Bazuin, Jr.
7495 Little River Turnpike, Apt. #201
Annandale, VA 22003

Scincella lateralis (Ground Skink): Mathews Co., along the N side of the W end of Winter Harbor about 1.6 km SSW of the Onemo Post Office and 3.2 km E of Port Haywood. September 1, 1986. J. B. Bazuin, Jr.

The specimen was captured alive along the base of a small pumphouse. It is about 5.0 cm long overall but is missing the end of its tail. Tobey (1985, *Virginia's Amphibians and Reptiles: A Distributional Survey*, privately published, Purcellville, Va.) does not show any records of this species from the Middle Peninsula. The specimen was preserved and donated to the Joseph C. Mitchell-Christopher A. Pague Collection, Carnegie Museum of Natural History, CMFS 54998.

John B. Bazuin, Jr.
7495 Little River Turnpike, Apt. #201
Annandale, VA 22003

FOUR SPECIES INCLUDED ON THE VIRGINIA "ENDANGERED" LIST

VHS members will be especially pleased to learn that on August 28, 1987, the proposed regulation VR 325-02-27 & 15, "state endangered species" was approved at an open hearing held at the Game Commission Office, and from that date has the status of an enacted law. The new law "includes all species listed on the Federal Endangered and Threatened Species List. In addition, the following species are declared endangered in this Commonwealth and are afforded the protection provided by Article 6, Chapter 5, Title 29 of the Code of Virginia." In addition to several birds, mammals, fishes, and freshwater mussels, the roster embraces two salamanders (Eastern Tiger Salamander, *Ambystoma tigrinum* and Shenandoah Salamander, *Plethodon shenandoah*) and two turtles (Bog Turtle, *Clemmys muhlenbergi* and Chicken Turtle, *Deirochelys reticularia*).

This action sets the precedent and, it is hoped, provides the initiative for consideration of other elements of the state's herpetofauna as recipients of official protection. The efforts of Game Commission personnel and the scientific justification provided by VHS members Joe Mitchell and Chris Pague merit the acclaim of everyone concerned with the preservation of the Virginia biota.

Richard Hoffman
Department of Biology
Radford University
Radford, VA 24142

VaHS MEETING INFORMATION--OCTOBER 17, 1987

PLACE: Gottwald Science Center, University of Richmond, Richmond, Virginia

ROOMS: E (= east wing) -107 (business meeting) and CB-01 (meeting auditorium)

TIMES: business meeting--10:00-12:00
paper session--1:00-5:00

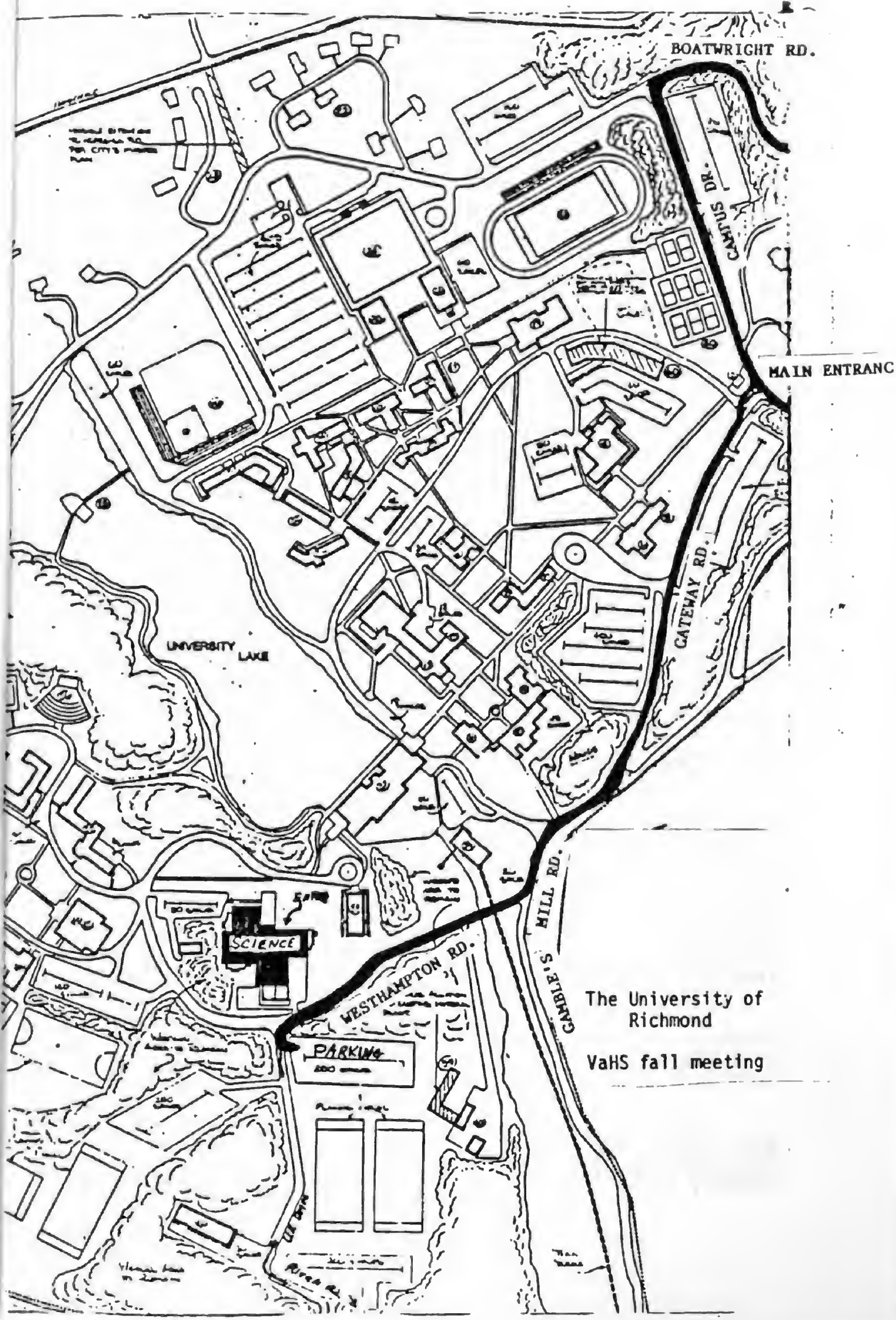
LUNCH: There are local establishments but these are off campus. If you bring your lunch, refreshments will be available.

DIRECTIONS: From south of the James River--take Huguenot bridge (Rt. 147) to River Road, turn left (at shopping center) and then first right on UR Drive, proceed to the parking area (see map on page 23).

From north of the James River (I-64)--take Univ. Richmond exit to Glenside Road south, follow to Three Chopt Rd. (third light), left on Three Chopt, take a right on Boatwright Rd. then a left at the bottom of the curves onto Campus Drive. Enter UR at the main entrance and bear left onto Gateway Rd. Continue on Gateway Rd. until junction with Richmond's Way and Gamble's Mill Rd. Turn left onto Gamble's Mill Rd. Take next right onto Westhampton Way to Gottwald Science Center (on right) and parking lot (on left).

Enter the science building from the Westhampton Lake (north) side.

INFORMATION: Dr. Joseph C. Mitchell, Dept. of Biology, Univ. of Richmond, Richmond, VA 23173 (804) 285-6275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CHARLOTTE COURT HOUSE VA 23923

JOHN B BAZUIN JR
7495 LITTLE RIVER TPK #201
ANNANDALE VA 22003

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4501 DOLPHIN LN
ALEXANDRIA VA 22309

CHARLES R BLEM
DEPT OF BIOL VA COMM UNIV
816 PARK AVE
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DALE L BRITTLE
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DONALD R BROTHERS
HC33 BOX 1176
BOISE ID 83706

CLYDE R BROWN
BOX 154
FIELDALE VA 24089

KURT A BUHLMANN
35-F SALEM ALLEY
WEST MILFORD NJ 07480

WALTER BULMER
BIOL DEPT NO VA COMM COLL
833 LITTLE RIVER TPK
ANNANDALE VA 22003

JAMES S BURKE
PO BOX 6694
NEWPORT NEWS VA 23606

ROBERT W CASH
PO BOX 157
NATURAL BRIDGE STA VA 24579

MIKE J CLIFFORD
PO BOX 81
NOTTOWAY VA 23955

JOSEPH T COLLINS
MUS OF NAT HIST
UNIV OF KANSAS
LAWRENCE KA 66045

*ROGER CONANT
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UNIV NEW MEXICO
ALBUQUERQUE NM 87131

VINCENT J CONGRO
2031 73RD ST
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COSTELLO M CRAIG
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BEDFORD VA 24523

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RT 1 BOX 411
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520 RAINBOW FOREST DR
LYNCHBURG VA 24502

ROGER H DERAGEOT
1851 IRVING ST NW
WASHINGTON DC 20010

WILLIAM H DUNSON
DEPT OF BIOL PENN STATE UNIV
208 MUELLER BLDG
UNIVERSITY PARK PA 16802

RALPH P ECKERLIN
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8333 LITTLE RIVER TPK
ANNANDALE VA 23003

DAVID EMERY
13201 JASPER RD
FAIRFAX VA 22033

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GRAFTON VA 23692

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JOSEPH P GARVIN
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MIKE GEIGER
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139-J LOUISE DR
NEWPORT NEWS VA 23601

EUGENE V GOURLEY
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RADFORD VA 24142

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RADFORD VA 24142

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HARPERS FERRY WV 25425

JACKIE R MERKT
480 WINDEMERE RD
NEWPORT NEWS VA 23602

GEORGE MERRIKEN
342 NANSEMOND ST SE
LEESBURG VA 22075

JOSEPH C MITCHELL
DEPT OF BIOL
UNIV OF RICHMOND
RICHMOND VA 23173

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16 LANGSHAW LN
TOWNSEND DE 19734

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WENDY H MITCHELL
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UNIV OF VIRGINIA
CHARLOTTESVILLE VA 22901

CHARLES NEAL
DEPT OF BIOL
RADFORD UNIV
RADFORD VA 24142

NEAL S NELSON DVM
MARGIT NELSON MD
8102 ASHTON BIRCH DR
SPRINGFIELD VA 22152

JAMES A ORGAN
734 RUTLAND AVE
TEANECK NJ 07666

CHRISTOPHER A PAGUE
DEPT OF BIOL SCI
OLD DOMINION UNIV
NORFOLK VA 23508

JOSEPH PARKER JR
RT 2 BOX 56B
BEDFORD VA 24523

TOM PIERSON
5400 BERNARD DR SW #F202
ROANOKE VA 24014

EUGENE/CAROLYN SABOL
UTOPIA FARM
PO BOX 1195
LEESBURG VA 22075

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1B WALLS BRANCH RD
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112 ANDERSON AVE
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109 VIRGINIA DR
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2106 CARNABY DR
VA BEACH VA 23454

SUSAN S SMALLWOOD
PO BOX 862
MIDDLEBURG VA 22117

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RT 2 BOX 243
MEADOWVIEW VA 24361

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PO BOX 6643
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1210 RED OAK LN
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RONALD SOUTHWICK
5608 PARKLAND CT
VA BEACH VA 23464

*FRANKLIN J TOBEY
RT 1 BOX 381
PURCELLVILLE VA 22132

ROBERT T TURNER
4911 NEWPORT AVE APT #7
NORFOLK VA 23508

JEREL J VAUGHAN
12131 BRANTLEIGH PL
FAIRFAX STATION VA 22039

PIERRE R WARNY
34 BRIDLE PATH
PORT WASHINGTON NY 11050

DON WEST
2042 DEAUVILLE RD
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2921 MEADOW FOREST RD
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5204 RIVERSIDE DR
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*HONORARY LIFE MEMBER

Membership Application

I wish to ☐ initiate ☐ renew membership in the Virginia Herpetological Society for the year 19_____ .

☐ I wish only to receive a membership list. Enclosed is $1.00 to cover cost.

Name _____

Address _____

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Dues category: ☐ Regular (5.00) ☐ Family (7.50) ☐ Under 18 (3.00)

Interests: ☐ Reptiles ☐ Amphibians ☐ Captive husbandry
☐ Distribution ☐ Research ☐ Specifically: _____

Make checks payable to the Virginia Herpetological Society and send to the treasurer.

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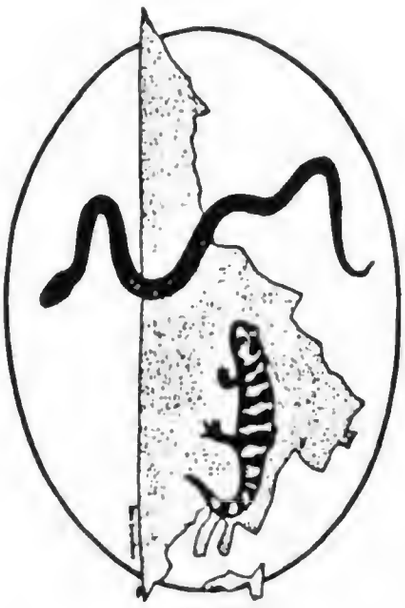


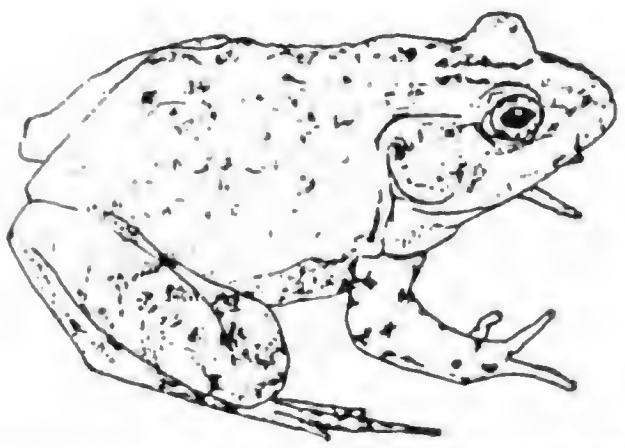
with the Virginia Herpetological Society

The Virginia Herpetological Society

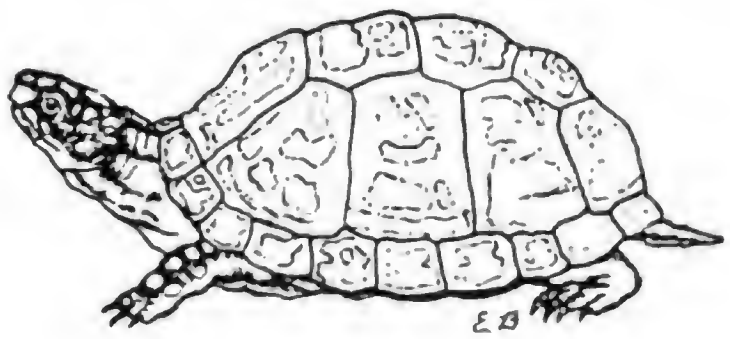
A society open to everyone with an interest in the conservation, study and care of reptiles and amphibians

The Virginia Herpetological Society was organized in 1958 to bring together people interested in advancing the knowledge of Virginia's reptiles and amphibians. The VaHS encourages the scientific study of Virginia's herpetofauna and its conservation. Educational activities continue to be important society functions.

Meetings are held twice each year, in Spring and Fall, at different locations throughout the state. The program is open to all members and includes a business meeting and a contributed papers session, during which members present information on their work with reptiles and amphibians, particularly in Virginia. An afternoon field trip usually follows.



The VaHS publishes a bulletin, CATESBEIANA, twice each year which contains articles, news and information on various aspects of Virginia herpetology. Members publish field notes and observations, distributional information and suggestions for improving husbandry techniques. Review articles appear occasionally. Material for inclusion should be sent to the CATESBEIANA editor.



Society dues are $5.00 per year ($3.00 for members under 18, and $7.50 for families).

Inquiries should be addressed to the secretary.

Membership can be initiated at meetings. Dues may be paid at that time.

President: Richard L. Hoffman, Dept. of Biology, Radford University, Radford, VA 24142

Vice President: Christopher A. Pague, Dept. of Biological Sciences, Old Dominion University, Norfolk, VA 23508

Secretary/Treasurer: Laura Crews, Route 1, Box 411, Hayes, VA 23072 (804) 642-4828

Coeditors: Eugene Gourley and Charles Neal, Radford University,

Advantages of VaHS membership

- Spring meeting with talks, slides, and field trip
- Fall meeting with lectures, film or workshop
- Society bulletin published twice per year
- Extensive research material available
- Awareness of current herpetological events
- Opportunity to meet others who share your interest in herps
- Support of VaHS education and conservation goals

Major Papers

Manuscripts being submitted for publication should be typewritten (double spaced) on good quality 8 1/2 by 11 inch paper, with adequate margins. Consult the style of articles in this issue for additional information. Articles will be refereed by at least one officer (past or present) of the VaHS in addition to the coeditors. All changes must be approved by the author before publication; therefore, manuscripts should be submitted well in advance of March or September.

Reprints of articles are not available to authors; however, authors may reprint articles themselves to meet professional needs.

Field Notes

This section provides a means of publishing natural history information on Virginia's amphibians and reptiles that does not lend itself to full-length articles. Observations on geographic distribution, ecology, reproduction, phenology, behavior and other areas are welcomed. Reports can be on a single species, groups of species or fauna from selected areas, such as a state park or county. The format of the reports is TITLE (species or area), COUNTY AND LOCATION, DATE OF OBSERVATION, OBSERVERS, DATA and OBSERVATIONS. Names and addresses of authors should appear one line below the report. Consult published notes or a coeditor if your information does not readily fit this format.

If the note contains information on geographic distribution, a voucher specimen or color slide should be sent for verification and deposited in a permanent museum or sent to the VaHS. Species identification for observational records should be verified by a second person.

The correct citation format: Croy, S. 1984. Field notes: *Lampropeltis getulus niger*. *Catesbeiana* 4(1):12.

Herpetological Artwork

Herpetological artwork is welcomed. If the artwork has been published elsewhere, we will need to obtain copyright before we can use it in an issue. We need drawings and encourage members to send us anything appropriate, especially their own work.

Coeditors, Catesbeiana
Department of Biology
Radford University
Radford, VA 24142